Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Claims 1-26 (canceled)

27. (Currently amended) A tag comprising an integrated circuit that includes:
a first antenna that receives an electromagnetic wave;
a signal receiving system that receives and stores input data derived from the wave;
a separate power storage component that receives and stores the energy for use in powering the integrated circuit;
a data processing system that produces output data from the input data; and
a second antenna that transmits at least a portion of the output data externally to the tag.

28. (Currently amended) A tag comprising an integrated circuit that includes:
a first antenna that receives an electromagnetic wave;
a separate power storage component that receives and stores the energy for use in powering the integrated circuit;
a data processing system that produces output data; and
a second antenna that transmits at least a portion of the output data externally to the tag.

29 - 32. (canceled)

33. (Currently amended) The tag of claim 27, wherein the wave has a wavelength within a spectrum of the wavelengths from radio waves to ultraviolet light.

34. (Currently amended) The tag of claim 27, further comprising a memory section that stores at least one of the input data and the output data.

35. (Currently amended) The tag of claim 34, wherein the memory section is nonvolatile.

36. (Currently amended) The tag of claim 27, further comprising a multiplexer that controls a flow of the input data.

37. (Currently amended) The tag of claim 27, further comprising a pulse generating circuit.

38. (Currently amended) The tag of claim 27, wherein the input data is in analog form.

39. (Currently amended) The tag of claim 27, wherein the input data is in digital form.

40. (Currently amended) The tag of claim 27, wherein the output data is in analog form.

41. (Currently amended) The tag of claim 27, wherein output data is in digital form.

42. (Currently amended) The tag of claim 27, further comprising a clock generator circuit.

43. (Currently amended) The tag of claim 27, further comprising a shift register circuit.

44. (Currently amended) The tag of claim 27, wherein the second antenna is a backscatter type antenna.

45. (Currently amended) The tag of claim 27, wherein the integrated circuit is built onto material selected from the group consisting of silicone, germanium, GaAs, sapphire, and diamond.

46. (Currently amended) The tag of claim 27, further comprising test and monitoring points and pads.

47. (Currently amended) The tag of claim 27, further comprising a test and monitoring control circuitry.

48. (Currently amended) The tag of claim 27, further comprising circuits for logic, sequencing and switching.

49. (Currently amended) The tag of claim 28, wherein the wave has a wavelength within a spectrum of the wavelengths from radio waves to ultraviolet light.

50. (Currently amended) The tag of claim 27, wherein the first antenna comprises a dipole antenna.

51. (Currently amended) The tag of claim 27, wherein both first and second antennas comprise dipole antennas.

52. (Currently amended) The tag of claim 51, wherein the second antenna is powered entirely by the energy stored by the power storage component.

53. (Canceled)

54. (Currently amended) The tag of claim 28, further comprising a memory section that stores the output data.

55. (Currently amended) The tag of claim 54, wherein the memory section is a nonvolatile memory.

56. (Currently amended) The tag of claim 28, further comprising a multiplexer that controls a flow of the output data

57. (Currently amended) The tag of claim 28, further comprising a pulse generating circuit.

58. (Currently amended) The tag of claim 28, further comprising a circuitry that receives input data in analog form.

59. (Currently amended) The tag of claim 28, wherein the input data is in digital form.

60. (Currently amended) The tag of claim 28, wherein the output data is in analog form.

61. (Currently amended) The tag of claim 28, wherein the output data is in digital form.

62. (Currently amended) The tag of claim 28, further comprising a clock generator circuit.

63. (Currently amended) The tag of claim 28, further comprising a shift register circuit.

64. (Currently amended) The tag of claim 51, wherein the second antenna is a backscatter type antenna.

65. (Currently amended) The tag of claim 28, wherein the integrated circuit is built onto different materials selected from the group consisting of silicone, germanium, GaAs, sapphire, or diamond.

66. (Currently amended) The tag of claim 28, further comprising test and monitoring points and pads.

67. (Currently amended) The tag of claim 28, further comprising test and monitoring control circuitry.

68. (Currently amended) The tag of claim 28, further comprising circuits for logic, sequencing and switching.

69. (Currently amended) The tag according to claim 27, wherein the first antenna is tuned to a frequency from radio waves to ultra violet, inclusive.

70. (Currently amended) The tag according to claim 28, wherein the second antenna is tuned to a frequency from radio waves to ultra violet, inclusive.

71. (Currently amended) The tag of claim 27 wherein the integrated circuit is monolithic, the first antenna supplies power to both the integrated circuit and the second antenna, and further comprising a memory that stores at least one of the input data and the output data.

72. (Currently amended) The tag of claim 28 wherein the integrated circuit is monolithic, the first antenna supplies power to both the integrated circuit and the second antenna, and further comprising a memory that stores at least one of the input data and the output data.

73. (Currently amended) The tag of claim 27, further comprising a data processing system that processes the input data to produce at least one of a decision and an take action.

74. (Currently amended) The tag of claim 28, further comprising a data processing system that processes the input data to produce at least one of a decision and an take action.

75. (New) An electronic tag comprising:

a first antenna that receives an electromagnetic wave from an interrogator, and converts the wave into electrical energy that charges a capacitor to supply power;

a first antenna that receives and stores an input signal containing input data;

an information processing circuit that utilizes the power to produce an output data;

a second antenna; and

a driver circuit that utilizes the second antenna to modulate and reflect the wave to send the output data to a receiver.

76. (New) The tag of claim 75 wherein the tag is powered entirely by electrical energy received by the first antenna..

77. (New) The tag of claim 75 wherein the first antenna comprises a dipole antenna.

78. (New) The tag of claim 75 wherein the second antenna comprises a dipole antenna.

79 (New) The tag of claim 75 where the first and second antenna are positioned on opposite ends of the tag.

80. (New) The tag of claim 75 further comprising a tuning circuit that tunes the first antenna to receive the wave at a frequency of between radio waves and ultraviolet, inclusive.

81. (New) The tag of claim 75 further comprising a non-volatile memory that provides at least part of the output data.

82. (New) The tag of claim 75 wherein the driver circuit drives the second antenna as a half–wave or quarter-wave reflector.

83. (New) The tag of claim 27, wherein the first antenna comprises a dipole antenna.

84. (New) The tag of claim 27, wherein the second antenna comprises a dipole antenna.

85. (New) The tag of claim 28, wherein the first antenna comprises a dipole antenna.

86. (New) The tag of claim 28, wherein the second antenna comprises a dipole antenna.

87. (New) The tag of claim 27, wherein the first and second antennas are a single antenna.

88. (New) The tag of claim 28, wherein the first and second antennas are a single antenna.

89. (New) An electronic integrated circuit tag comprising:

a first antenna that receives an electromagnetic wave in a wavelength region of microwave to ultra violet, inclusive, converts the wave into electrical energy, and stores the electrical energy;

a signal receiving system that receives input data from the first antenna and stores the data inside the tag;

a power storage component that stores the energy received by the first antenna and supplies that energy to the integrated circuit;

a data processing system that sends out a least a portion of the stored data; and

a second antenna that transmits an output wave in a wavelength region of microwave to ultra violet, inclusive, outside of the integrated circuit tag.